

From: [Edwin Koh](#)
To: [Matt Brule](#); [HuaZhen Luo](#)
Cc: [Ops_Wppl_Support](#)
Subject: FW: ppt for the noise test fail issue on the 1164 boards.
Date: Monday, 28 September, 2020 21:10:00
Attachments: [image001.png](#)
[image032.png](#)
[image033.png](#)
[image034.png](#)
[image035.png](#)
[image036.png](#)
[image037.png](#)
[image038.png](#)
[image039.png](#)
[image040.png](#)
[image041.png](#)
[image042.png](#)
[image043.png](#)
[2100001164_Noise_Failure_Study_Rev00.pdf](#)
[image004.png](#)
[image007.png](#)
[image008.png](#)
[image011.png](#)
[image012.png](#)
[image013.png](#)

Hi Matt and HuaZhen,

Findings from today's investigation on the noise failure. It is very likely the cause of noise is related to UUT failure instead of tester.

[@HuaZhen Luo](#), please close the OESR.

[@Matt Brule](#), need your expert advice. Is there a way we can do a mass extract of the test logs in GTS system?

Flex Senai mention the test log can only be done one board at a time. We like to retrieve the test log into a CSV file for trend analysis.

Thanks and Best Regards

Edwin Koh

Senior Operations Manager

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1 Science Park Road #02-08 The Capricorn Singapore 117528

From: Narendran Sevoo Al Muniyandy <narendransevoal.muniyandy@flex.com>

Sent: Monday, September 28, 2020 15:45

To: Edwin Koh <Edwin_Koh@waters.com>; Amy Xu Xia Jie <amy.xu@flex.com>

Cc: Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>; Shaynee Lim <Shaynee_Lim@waters.com>; Kah Chin Tan <Kah_Chin_Tan@waters.com>; Wei Yin Leong <weiyin.leong@flex.com>; Yew Wah Pang <yewwah.pang@flex.com>; Azrul Bin Naim

<azrul.binnaim@flex.com>; Desmond Ann <Desmond_Ann@waters.com>

Subject: [EXT] RE: ppt for the noise test fail issue on the 1164 boards.

ATTENTION: This email originated from outside of the organization. Please do not open any attachments or click any links unless you recognize the sender and know the content is safe.

Hi Edwin,

Sorry for the delay, please kindly refer to the attached pdf:

1. Checked the circuitry and narrowed to U8 (Current d/c: 1934). changed the component to other available d/c: 1814 and unit able to passed the noise test. Refer to pg#17~22 in the attachment
2. 2 voltage clamp failure unit failed PDA peak failure after the U8 replace, then replaced U7 and U12 both unit passed. Refer to pg#22
3. 1 unit originally having PDA peak failure still failing after U8, U7 and U12 replaced. Refer to pg#22
4. Test team still in progress to find the root cause for the PDA peak failure.
5. Data comparison for the month of Aug and Sept. Refer to pg#23

Let us know your availability to discuss further on the latest findings.

Best regards,
Narendran Sevoo

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From: Narendran Sevoo Al Muniyandy

Sent: Friday, September 25, 2020 9:41 AM

To: Edwin Koh <Edwin_Koh@waters.com>; Amy Xu Xia Jie <amy.xu@flex.com>

Cc: Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>; Shaynee Lim <Shaynee_Lim@waters.com>; Kah Chin Tan <Kah_Chin_Tan@waters.com>; Wei Yin Leong <WeiYin.Leong@flex.com>; Yew Wah Pang <yewwah.pang@flex.com>; Azrul Bin Naim <azrul.binnaim@flex.com>; Desmond Ann <Desmond_Ann@waters.com>

Subject: RE: ppt for the noise test fail issue on the 1164 boards.

Hi Edwin,

Good morning,

Attached is the full FCT result for the 220pcs.
Below are the summary.

FCT Test Result Breakdown		Qty
Noise	8000~18400 (Passed)	15
	18400~19500(Failed)	60
	19500~20500 (Failed)	42
FAILED OTHER. N5A		3
FAILED OTHERS. INPUT CLAMPING VOLTAGE		63
FAILED OTHERS. P_PDA PEAK VOLTAGE		32
FAILED OTHERS. TEST 14A		2
FAILED OTHERS.OVER-VOLTAGE CLAMP		3
Total		220

Best regards,
Narendran Sevoo

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From: Narendran Sevoo Al Muniyandy

Sent: Thursday, September 24, 2020 7:13 PM

To: Edwin Koh <Edwin_Koh@waters.com>; Amy Xu Xia Jie <amy.xu@flex.com>

Cc: Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>; Shaynee Lim <Shaynee_Lim@waters.com>; Kah Chin Tan <Kah_Chin_Tan@waters.com>; Wei Yin Leong <WeiYin.Leong@flex.com>; Yew Wah Pang <yewwah.pang@flex.com>; Azrul Bin Naim <azrul.binnaim@flex.com>; Desmond Ann <Desmond_Ann@waters.com>

Subject: RE: ppt for the noise test fail issue on the 1164 boards.

Hi Edwin,

Please refer to the attached clearer picture.

The d/c-2012 is actually YYWW.

The same lot used in the model WATH-WT-210001203-A.

Will send the meeting invitation in a while.

Best regards,
Narendran Sevoo

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From: Edwin Koh <Edwin_Koh@waters.com>

Sent: Thursday, September 24, 2020 5:52 PM

To: Narendran Sevoo Al Muniyandy <narendransevoaal.muniyandy@flex.com>; Amy Xu Xia Jie <amy.xu@flex.com>

Cc: Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>; Shaynee Lim <Shaynee_Lim@waters.com>; Kah Chin Tan <Kah_Chin_Tan@waters.com>; Wei Yin Leong <WeiYin.Leong@flex.com>; Yew Wah Pang <yewwah.pang@flex.com>; Azrul Bin Naim <azrul.binnaim@flex.com>; Desmond Ann <Desmond_Ann@waters.com>

Subject: RE: ppt for the noise test fail issue on the 1164 boards.

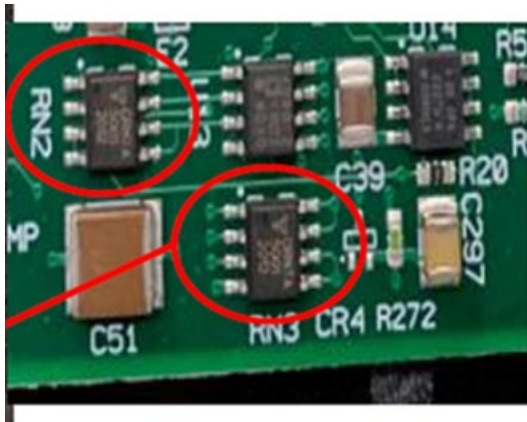
Hi Naren,

Could you provide a clearer body marking on the resistor page 7.

Also, could you explain more on the old date code. It a 2012 date code.

When is this lot of network resistors used, for this lot or already for multiple lots?

Am not saying this is the problem but I need to gather as much information as possible to eliminate the possible suspects.



Thanks

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From: Narendran Sevoo Al Muniyandy <narendransevoal.muniyandy@flex.com>

Sent: Thursday, September 24, 2020 15:14

To: Edwin Koh <Edwin_Koh@waters.com>; Amy Xu Xia Jie <amy.xu@flex.com>

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<azrul.binnaim@flex.com>

Subject: [EXT] RE: ppt for the noise test fail issue on the 1164 boards.

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Hi Edwin,

Sorry for the delay:

Please refer to the below updates:

1. 5K ohm resistance value. This is a high precision network resistor
Please refer to page#7~10 in the attachment for the measurement value and component details.
Further this component is covered in the ICT coverage.
2. AVL of the resistor sourced
We purchased the Vishay MPN (ORNTA5001DUF) approved AVL.

Best regards,
Narendran Sevoo



From: Edwin Koh <Edwin_Koh@waters.com>

Sent: Thursday, September 24, 2020 11:51 AM

To: Amy Xu Xia Jie <amy.xu@flex.com>

Cc: Narendran Sevoo Al Muniyandy <narendransevooal.muniyandy@flex.com>; Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>; Shaynee Lim <Shaynee_Lim@waters.com>; Kah Chin Tan <Kah_Chin_Tan@waters.com>

Subject: RE: ppt for the noise test fail issue on the 1164 boards.

Hi Amy and Senai team,

1. Am include Shaynee and KC in loop that this is likely a yield issue
2. Can someone help check 344000637 network resistors (RN2 and RN3).
 - a. 5K ohm resistance value. This is a high precision network resistor
 - b. AVL of the resistor sourced

Reason, I spoke with US Engineering and without seeing into the physical boards, they ask that Senai side look into these network resistors as these are sensitive and could affect noise.

Please measure and sent me some data.

Edwin Koh

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From: Amy Xu Xia Jie <amy.xu@flex.com>

Sent: Thursday, September 24, 2020 10:22

To: Edwin Koh <Edwin_Koh@waters.com>

Cc: Narendran Sevoo Al Muniyandy <narendransevoal.muniyandy@flex.com>; Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>; Vincent Lim <ChoonKhong.Lim@flex.com>; Siang Loh Soh <SiangLoh.Soh@flex.com>; Woo Keok Fah <keokfah.woo@flex.com>; Chun Wei Kho <ChunWei.Kho@flex.com>

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Hi Edwin

Below are 10pcs marginal fail PCBA reading. Senai will share the test log details later.

SN	ACTUAL READING	REMARKS
090920006M	19242.5021	TEST NOISE FAILED
090920193M	18763.4103	TEST NOISE FAILED
090920130M	19221.0246	TEST NOISE FAILED
090920128M	19600.9026	TEST NOISE FAILED
090920131M	19480.9538	TEST NOISE FAILED
090920116M	20333.9897	TEST NOISE FAILED
090920150M	19097.6615	TEST NOISE FAILED
090920168M	NA	OTHERS (INPUT CLAMP VOLTAGE, MARGINAL) FOR VERIFICATION
090920014M	18843.3882	TEST NOISE FAILED
090920032M	18824.5503	TEST NOISE FAILED



Amy Xu Xiajie

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From: Chun Wei Kho <ChunWei.Kho@flex.com>

Sent: Thursday, September 24, 2020 12:06 AM

To: Edwin Koh <Edwin_Koh@waters.com>

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Subject: FW: ppt for the noise test fail issue on the 1164 boards.

Hi Edwin,

Kindly review the slide that we had discussed this afternoon.



Kho Chun Wei

Program Administrator

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From: Bernard Retutas Pamplona <bernardretutas.pamplona@flex.com>

Sent: Thursday, September 24, 2020 12:02 AM

To: Chun Wei Kho <ChunWei.Kho@flex.com>

Subject: ppt

fyi



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